Introduction
to the National MME Planning Meeting

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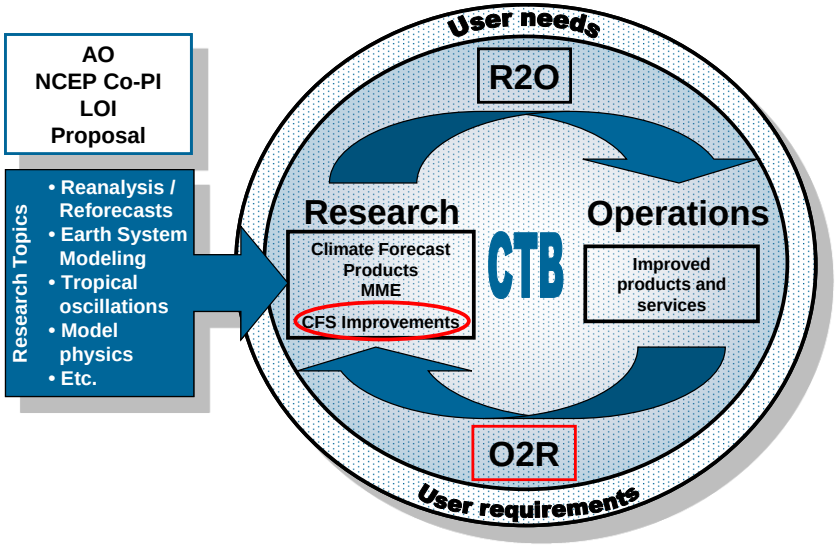
NCEP Climate Test Bed

- Welcome
- Background Information
  - Climate Test Bed (CTB) Overview
  - Motivation for this meeting
- Key questions to address and expected outcomes

NCEP Climate Test Bed



Mission

To accelerate the transition of scientific advances from the climate research community to improved NOAA climate forecast products and services.

- Joint NCEP-CPO facility @ NCEP
- CTB Science Advisor Board (SAB)
- Established in 2005
- Serves as conduit between the operational, academic and research communities

- CTB embraces *the R2O and O2R paradigms*
- CTB emphasizes high profile science activities
  - *CFS improvements*
  - *Multi-model ensembles*
  - *Climate forecast products*
- Competitive Grants Program
- CTB Seminar Series
- CPC-RISA Program

The 2011 CTB Pis Meeting will be on Oct.3-6, 2011 in Fort Worth, TX

CTB Multi-Model Ensembles Activities

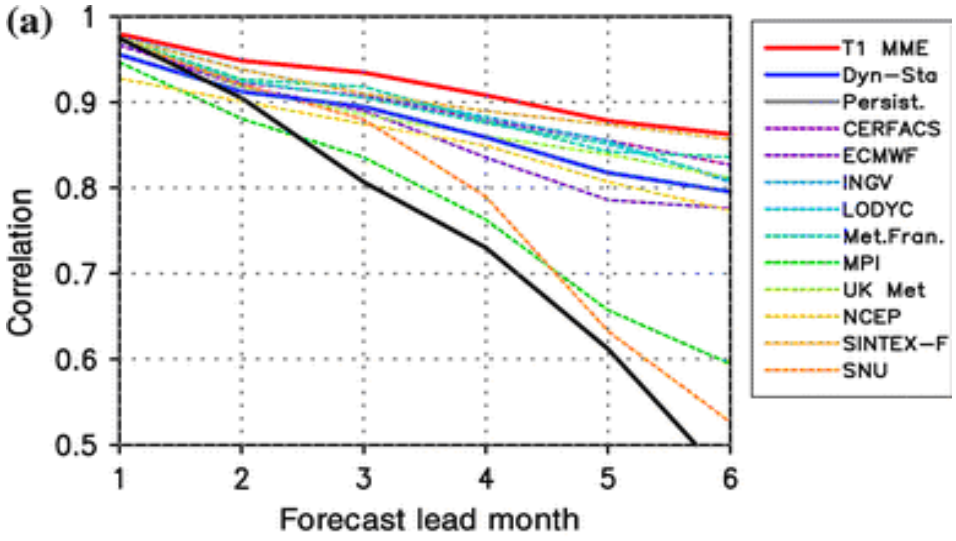
Goal

A multi model ensemble prediction system that leverages the best national and international models for improved predictions on intraseasonal-to-interannual time scales

CTB Current MME Activities

- Consolidation techniques
- Verification
- MME Prediction System
  - MME Forecast of MJO (FY10)
  - MME Prediction with CFS and CCSM (FY08)

ENSO Prediction



- MME mean outperforms individual models

Motivations for National MME System

- MME prediction outperforms over individual models
- Current NCEP ISI operational forecasts:
  - So far, NCEP CFS is the main dynamic model used in NCEP operational monthly and seasonal forecasts
  - CTB funded MME projects are mainly in research mode
  - International MME/EUROSIP and its constraint
- Potential Benefits of Implementing the National MME System
  - Improved US operational ISI forecast skill by bringing in research advances from other US modeling centers and research groups
  - Full model outputs accessible by the research community
  - A possible platform for US modeling centers to collaborate on model improvement
  - A potential framework for the future Decadal MME Prediction

Questions for Discussions

1) What is the current status of ISI climate forecast systems in US? (Discussion Lead: Ben Kirtman)

Related questions for discussions:

- Will additional models provide extra skills on top of EUROSIP?
- Are US models independent enough from each other?
- What are the benefits for other US models to participate the real time ISI forecasts?

Questions for Discussions

2) What are the computer resource requirements to run multiple US models in real time? (Discussion Lead: Bill Lapenta)

- Requirements for models to be part of the NMME System:
  - hindcasts
  - data assimilation system
  - real time

- Readiness of US models (NASA, NCAR, GFDL) to run in real time?

Questions for Discussions

3) Who will run the models and where will they be run?

(Discussion Lead: Bill Lapenta)

e.g.

- Can NCEP/NEMS be used for the NMME ISI forecasts?

- Should NASA, GFDL, and NCAR models be run at NCEP Central Operations or at other locations?

- Where to apply for computer time for the pilot studies (Gaea? Site B?)

Questions for Discussions

4) What are the research gaps and resource requirements for experiments in FY12 & beyond? (Discussion Lead: Ben Kirtman)

- Key experiments required before implementing NMME in real time?

- Research questions (not as urgent?)

  e.g.

  - Methods of selection, bias correction and weighting of IMME and NMME

  - Can the same NMME system used for ENSO and MJO?

Expected Outcomes of this Meeting

(Lead: Kirtman with inputs from everybody)

i) A White Paper on Strategy and Implementation Plan for US National ISI MME System

ii) Recommendations for FY12 research priorities